

MILITARY SPECIFICATION

CONNECTORS, ELECTRICAL, (CIRCULAR, MINIATURE,
 QUICK DISCONNECT, ENVIRONMENT RESISTING),
 RECEPTACLES AND PLUGS,
 GENERAL SPECIFICATION FOR

This amendment forms a part of MIL-C-26482G, dated 5 September 1975, and is approved for use by all Departments and Agencies of the Department of Defense.

PAGE 1

1.1.1(b), line 2: Following "(200°C)", add "(classes H, N, and W, 175°C)."

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* TABLE I, delete and substitute:

TABLE I. Connector class and series.

| Class | Series 1 (125°C) | | Series 2 (200°C) | Series 2 (175°C) | |
|---|------------------|--|---|------------------|---|
| | Solder | Front release crimp remov- able contacts | Rear release crimp remov- able contacts | Solder | Rear release crimp remov- able contacts |
| A-Grommet seal, nonconductive | | | X | | |
| E-Grommet seal, conductive | X | X | 1/ | | |
| P-Potted seal, conductive | X | X | | | |
| H-Hermetic seal, conductive | X | | | X | |
| J-Insert seal with gland seal for jacketed cable, conductive | X | | | | |
| L-Fluid resistant, conductive electroless nickel 1/ 2/ | | | X | | |
| N-Hermetic seal, crimp termination, conductive | | | | | X |
| F-Grommet seal with strain relief clamp conductive | X | X | | | |
| W-Cadmium plate, corrosive and fluid resistant, conductive | | | | | X |

1/ Class L is upgraded to 200°C and replaces class E, series 2, rear release, crimp removable contacts.

2/ Class L is for space applications only."

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1.2.1.3, Type A and Type B: Delete "(series 1)" (two places) and substitute "(series 1 and 2)" (two places).

* 1.2.1.5, delete and substitute:

"1.2.1.5 Contact style:

(a) Connectors ordered with standard contact arrangements as indicated in MIL-STD-1669 are as follows:

C- Feedthrough contact.

P- Pin contacts.

S- Socket contacts.

The C, P, and S designators are used to indicate that connectors will be used with full compliments of the applicable standard contacts as indicated in MIL-STD-1669.

The connectors that accommodate crimp removable contacts (P and S) may be ordered without standard contacts by adding an appropriate note on the purchase order; however, the connector part numbers and the marking requirements remain unchanged (see 6.3).

(b) Connectors used with other than standard contact arrangements as indicated in MIL-STD-1669 are as follows:

A - Less pin contacts.

B - Less socket contacts.

The A or B designators are used to indicated that the connectors will be used with other than standard contacts as indicated in MIL-STD-1669 (example: shielded, coaxial thermocouple, fiber optic contacts). The A and B designators are part of the connector part numbers and shall be marked on the connectors.

The standard contacts shall not be supplied with the connectors. The contacts that will be used with the connectors must be ordered separately (see 3.7.1, 3.7.4, and 6.3).

Note: When other than standard power contacts are used, the requirements stated herein may not be met."

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2.1, SPECIFICATIONS, FEDERAL, add:

"QQ-S-763 - Steel Bar Wire, Shape & Forging,
Corrosion Resisting."

MILITARY, add:

"MIL-C-39029 - Contact, Electrical Connector, General
Specification For."

"MIL-C-39029/31 - Contact, Electrical Connector, Pin, Crimp
Removable, (For MIL-C-26482 Series 1,
MIL-C-26500 and MIL-C-26518 Connectors)."

"MIL-C-39029/32 - Contacts, Electrical Connector, Socket,
Crimp Removable, (For MIL-C-26482
Series 1, and MIL-C-26500 Connectors)."

"MIL-C-83723 - Connector, Electrical (Circular,
Environment Resisting), Receptacles and
Plugs, General Specification For."

MILITARY, delete:

"MIL-C-23216 - Contacts, Electric Connector, General
Specification For."

* MILITARY, delete title for "MIL-C-55330" and substitute:

"Connector, Electrical & Fiber Optic, Packaging Of."

STANDARDS, MILITARY, delete:

"MS3192 - Contacts, Pin, Electric, Crimp,
Removable."

"MS3193 - Contacts, Socket, Electric, Crimp
Removable."

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3.3.4.1, first sentence, delete and substitute:

"Nonremovable contacts shall be made of suitably conductive
material."

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* 3.3.5, delete and substitute:

"3.3.5 Contact finish."

* 3.3.5.1, delete and substitute:

"3.3.5.1 Series 1 solder contact finish (except class H). Nonremovable contacts shall have a finish as specified 3.3.5.1.1, or 3.3.5.1.2. Each desired finish shall be qualified."

* Following 3.3.5.1, add:

"3.3.5.1.1 Overall finish. Contact body shall be gold plated in accordance with MIL-G-45204, type II, grade C, class 1 (0.000050 minimum), over a suitable underplate except silver shall not be used. Accessory members of the socket contacts need not be plated, but shall comply with the requirements for dissimilar metals specified in 3.3.2."

"3.3.5.1.2 Localized finish. Contact body shall have gold in accordance with MIL-G-45204, type II, grade C, class 1 applied to areas X and Y (see figure 5), as applicable. All other body surfaces shall be finished with gold in accordance with MIL-G-45204, any type and grade (no thickness specified). The entire surface of the contact body shall be nickel underplated in accordance with QQ-N-290, class 2, 0.00003 to .00015 inch thick. Gold discoloration in areas other than X and Y is acceptable."

3.3.5.2.1, delete and substitute:

"3.3.5.2.1 Types A and B, and type C (series 2). Nonremovable contacts shall be gold plated to a minimum of 50 microinches in accordance with MIL-G-45204, over a suitable underplate except silver shall not be used."

3.3.5.2.2, title, delete and substitute: "Types C and Y (series 1)."

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3.3.7.1.1, delete and substitute:

"3.3.7.1.1 Rigid (except classes H and N). Rigid dielectric materials shall be high grade having electrical and mechanical characteristics suitable for the purpose intended. The impact strength shall be such that the material shall not chip, crack, or break during assembly or normal service."

3.3.9.1, line 3: Delete "13, 218, 380, or 384 (SC114A)" and substitute "413.0, 518.0, 380.0, 384.0, A380.0, or A413.0."

* 3.3.9.2, delete and substitute:

"3.3.9.2 Shells, coupling rings, and accessories (backshells) (series 2).

- (a) Shells, coupling rings, and accessories shall be made of impact extruded, machined or die-cast aluminum alloy.
- (b) Accessories (backshells) shall be in accordance with MIL-C-85049."

* 3.3.9.5, delete and substitute:

"3.3.9.5 Finish (series 2). Metal parts shall be of a corrosion resistant material or be protected to meet the performance requirements of this specification. The type of finish and class designation shall be as follows:

- Classes H and N - .0001 inch minimum tin in accordance with MIL-T-10727 over nickel in accordance with QQ-N-290.
- Class L - Electrically conductive, electroless nickel plating conforming to MIL-C-26074, class 3 for molded/extruded alloy and class 4 for heat treated alloys, grade B, finish shall withstand 48 hours salt spray test. Use of a suitable under plate is permissible.

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Class W (175°C) - Cadmium plate in accordance with QQ-P-416 over a suitable underplate to withstand 500 hours salt spray. Resultant color to be olive drab, conductive.

Class A - Hard, anodic, nonconductive in accordance with MIL-A-8625, type III, .0008 inch minimum thick."

3.3.9.6: Delete in its entirety.

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3.3.9.7: Delete in its entirety.

3.3.10, delete and substitute:

"3.3.10 Bayonet pins. Bayonet pins shall be made of passivated stainless steel in accordance with QQ-S-763."

- * 3.4.1, line 1: Delete "or" and substitute "nor".
line 6: Delete "(see 6.3)" and substitute "(see 1.2.1.5 and 6.3)."

3.4.1.2.1, delete and substitute:

"3.4.1.2.1 Crimp power contacts. Crimp power contacts shall conform to MIL-C-39029/31 or MIL-C-39029/32 and shall be qualified to MIL-C-39029."

3.4.1.2.2, line 2: Delete "sheilded" and substitute "shielded".

3.4.1.2.3, last sentence: Delete.

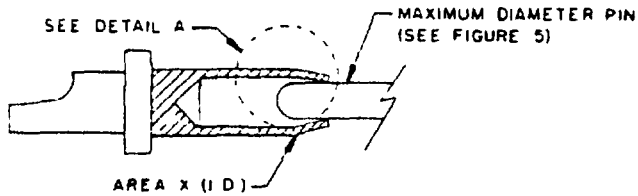
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FIGURE 5A: Pin contact, delete "MS3192" and substitute "MIL-C-39029/31"; Socket contact, delete "MS3193" and substitute "MIL-C-39029/32".

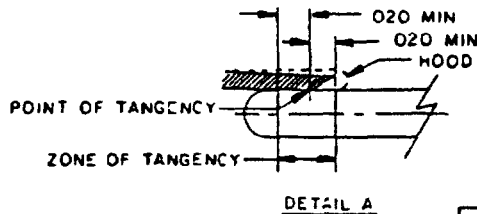
FIGURE 5B: Pin contact (Eyelet Termination), delete "MS3192" and substitute "MIL-C-39029/31".

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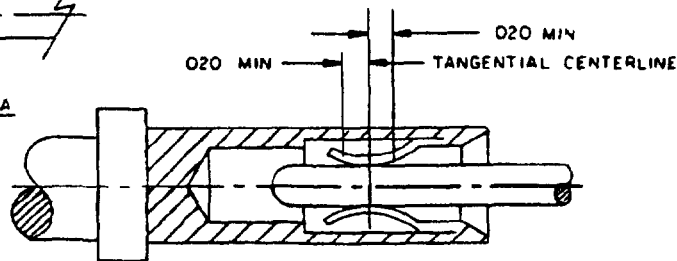
- * FIGURE 5C: Adding new figure on areas of applications of localized finish.



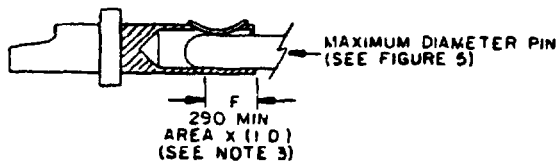
5C.1 Socket contact with integral pressure member (hood removed)



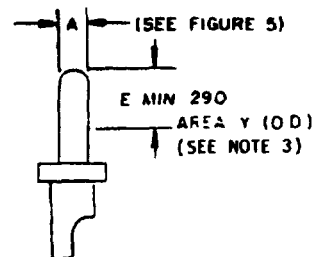
DETAIL A



5C.2 Socket contact with separate pressure member as primary current carrying interface



5C.3 Socket contact with separate pressure members.



5C.4 Pin contacts.

NOTES

- 1 Dimensions are in inches
- 2 Metric equivalents are given for general information only
- 3 F equals length of maximum electrical contact (wiping) area plus 0.020 (0.51 mm) minimum. Maximum wipe shall be equal to maximum E of mating pin engagement minus the spherical radius.

FIGURE 5C Areas of applications of localized finish.

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3.4.2.2.4, title, delete: "(series 2)". Also, last sentence: Delete.

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3.6.1, title, delete: "series 1,".

3.6.3, add second sentence as follows:

"Mating and unmating forces for RFI shielded plugs shall not exceed the values specified in table VI by more than 20 percent."

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3.6.4, last sentence: Delete "MIL-C-23216" and substitute "MIL-C-39029".

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3.6.7.2, line 2: Following "200°C," add "(classes H, N, and W, 175°C)."

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3.6.10, title and table X title: Add "(series 1)" (as deleted by amendment 3).

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3.6.19, delete and substitute:

"3.6.19 Salt spray (corrosion) (series 1). When tested as specified in 4.6.19, unmated connectors, stowage receptacles, protective covers, and accessories shall show no exposure of basic metal which will affect performance. The connector shall meet all subsequent test requirements."

3.6.22, title, delete and substitute: "Random vibration (series 2)."

* TABLE XII, delete and substitute:

"TABLE XII. Contact engagement and separation forces (series 1).

| Mating end size | Initial | | | After conditioning | | |
|-----------------------|--|---|--|--|---|--|
| | Minimum separation force (ounces) | Maximum average engagement force (ounces) | Maximum engagement force (ounces) | Minimum separation force (ounces) | Maximum average engagement force (ounces) | Maximum engagement force (ounces) |
| | Minimum diameter MS3197 pin | Maximum diameter MS3197 pin | Maximum diameter MS3197 pin | Minimum diameter MS3197 pin | Maximum diameter MS3197 pin | Maximum diameter MS3197 pin |
| 12 | 3 | 24 | 30 | 2.5 | 29 | 36 |
| 16 | 2 | 24 | 30 | 1.5 | 29 | 36 |
| 20 | 0.7 | 12 | 18 | 0.6 | 14 | 22 |

3.6.37, delete and substitute:

"3.6.37. Temperature life (series 2, class H). Following the test as specified in 4.6.37, the contact resistance shall meet the requirements of 3.6.5.2.

* 3.6.37.1, title: Delete "classes L, N, S, and W" and substitute "classes N, and W". (alters a change made by amendment 4)

* 3.6.39, delete and substitute:

"3.6.39 Shell to shell conductivity (series 2, except class A). When tested, as specified in 4.6.39, the probes shall not puncture or otherwise damage the connector finish and the maximum measured potential drop across assemblies shall be as follows:

(a) With spring fingers. Five millivolts for classes L, R, and W.

(b) Without spring fingers: 200 millivolts."

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TABLE XIII, delete and substitute:

"TABLE XIII. External bending moment (series 2).

| Shell size | Bending moment (inch-pounds) 2 inch lever |
|------------|--|
|------------|--|

| | |
|----|-----|
| 8 | 55 |
| 10 | 61 |
| 12 | 115 |
| 14 | 134 |
| 16 | 154 |
| 18 | 199 |
| 20 | 245 |
| 22 | 270 |
| 24 | 328 |

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3.6.47, delete and substitute:

"3.6.47 Accessory thread strength (series 2, class L). When tested as specified in 4.6.47, the accessory threads and portion of the connector that accepts connector accessories shall be capable of withstanding torques per table XXVIII."

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* 3.6.48, delete and substitute:

"3.6.48 Impact (drop) (qualification only) (series 2 only). When are connectors tested as specified in 4.6.50, there shall be no breaking or cracking of inserts, bending of pins, nor any other damage which prevents the connectors from being mated or renders them unfit to continue further testing. Any chipping of the inserts which affects its polarization or retention in the shell shall be considered a failure."

* Following 3.6.48, add:

"3.6.49 Solder contact plating thickness (except class H) (series 1). When measured as specified in 4.6.51, the plating thickness, except for corners, shall be in accordance with 3.3.5. All other plated surfaces shall be plated to a thickness to assure specified performance of the contact.

"3.6.50 Humidity - temperature cycling (series 1, solder contact with localized finish only) (except class H). When tested as specified in 4.6.52, there shall be no evidence of defects detrimental to the electrical performance."

3.7.4, delete and substitute:

"3.7.4 Connector marking (series 2). The connector shall be clearly and permanently marked in the location specified (see 3.1). Marking shall remain legible following completion of all inspections. Marking shall be nonfading. The characters shall be a minimum of .037 inch in height. The minimum character height does not apply to shell sizes 8, 10, and 12. Each connector shall be marked on the shell or coupling ring with manufacturer's name or trademark, the appropriate MS part number, if applicable (see 3.1), and the date of the manufacture (year and week). In addition, all connectors shall be marked around the periphery of the shell with a blue color band to identify the connectors as having the rear release contact system. The location of the blue band shall be as specified (see 3.1)."

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* 4.3.2.1.5, delete and substitute:

"4.3.2.1.5 Solder, contacts (series 1). A sufficient number of series 1 solder contact connectors and contacts shall be provided as follows:

- (a) Fifty of each socket contact configuration shall be subjected to the tests of table XVIII, group 7. Sockets which are not completely assembled prior to installation in the insert (e.g. class H, socket style), may be provide and tested in connectors.
- (b) Two pin contacts and two socket contacts, uninstalled but representative of each contact configuration supplied assembled in the insert, shall be provided for inspection of contact finish in accordance with 3.3.5 and 4.6.51 (table XVIII, group 12).
- (c) Eight pin contacts and eight socket contacts (localized finish only) (see 3.3.5.1.2) of each configuration, supplied assembled in the insert, assembled in the insert, shall be provided. Samples shall be wired as required and subjected to the tests of table XVIII, group 11."

* 4.3.2.2.1, title: Delete and substitute "Connector assemblies (classes L, and W)." Also, fourth sentence, delete and substitute:

"One RFI plug of each size together with two suitable counterpart receptacles (one with inserts and bayonet pins and one without) shall be provided for test groups 6 and 8 of table XIX."

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* 4.3.2.2.1.1, title: Delete and substitute "Intermateability samples (classes L, and W)."

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Add the following new paragraph:

"4.3.2.2.4 Qualification of insert grommet bonding (class L). Two bonded insert grommet assemblies and two bonded insert interface seal assemblies which have not been assembled into the connector shell shall be tested. The assemblies shall be of the size and contact arrangement for which qualification is to be conducted. These assemblies shall meet the requirements of 3.6.40."

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TABLE XVIII, group 8: Delete "Moisture Resistance" and substitute "Humidity". Also, air leakage, method paragraph, delete "4.6.15.1" and substitute "4.6.15.3".

* TABLE XVIII, following group 10, add:

| Examination or test | Requirement paragraph | Method paragraph | Test group | |
|---|-----------------------|------------------|------------|----|
| | | | 11 | 12 |
| <u>Group 11 - Localized finish solder contacts only</u> | | | | |
| Examination of product | 3.3.5.1.2,3.8 | 4.6.1 | X | |
| Contact resistance (25°C) | 3.6.4 | 4.6.5 | X | |
| Humidity - temperature cycling | 3.6.49 | 4.6.52 | X | |
| Contact resistance (25°C) | 3.6.4 | 4.6.5 | X | |
| <u>Group 12 - Contact finish</u> | | | | |
| Contact finish | 3.3.5 | | | X |

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* TABLE XIX, delete and substitute:

"TABLE XIX. Qualification inspection (series 2, classes L and W).

| Examination or test | Requirement paragraph | Method paragraph | Test group | | | | | | | |
|--|---------------------------|------------------|------------|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Examination of product | 3.1,3.3,3.5 3.7, & 3.8 | 4.6.1 | X | X | X | X | X | X | X | X |
| Magnetic permeability | 3.3.3 | 4.6.48 | X | - | - | - | - | - | - | - |
| Maintenance aging | 3.6.1 | 4.6.2 | X | - | - | - | - | - | - | - |
| Contact insertion removal force | 3.6.11 | 4.6.11 | X | X | X | X | X | X | - | - |
| Contact stability | 3.6.42 | 4.6.42 | - | - | - | - | - | - | X | - |
| Gage location and retention | 3.6.31 | 4.6.31 | X | X | X | X | X | X | - | - |
| RFI finger spring force | 3.6.44 | 4.6.44 | - | - | - | - | - | - | - | X |
| Mating and unmating forces | 3.6.3 | 4.6.4 | X | X | X | X | X | X | - | X |
| Dielectric withstanding sea level | 3.6.9.1 | 4.6.10.1 | X | X | X | X | X | X | - | - |
| Insulation resistance | 3.6.7.1 | 4.6.8.1 | X | X | X | X | X | X | - | - |
| Shell conductivity | 3.6.39 | 4.6.39 | X | X | X | X | X | X | - | X |
| Thermal shock | 3.6.13 | 4.6.13 | X | X | X | X | X | X | - | X |
| Durability (except RFI plugs) 1/ 2/ | 3.6.18 | 4.6.18 | - | - | - | - | - | X | - | - |
| Durability (RFI plugs) 1/ | 3.6.18.1 | 4.6.4 | - | - | - | - | - | X | - | X |
| Mating and unmating forces 3/ | 3.6.3 | 4.6.4 | - | - | - | - | - | - | - | X |
| Vibration 4/ | 3.6.22 | 4.6.22 | X | - | - | X | - | X | - | - |
| Physical shock | 3.6.24 | 4.6.24 | - | X | - | X | - | - | - | - |
| Temperature life with contact loading | 3.6.37.1 | 4.6.37.1 | - | - | X | - | - | - | - | - |
| Humidity | 3.6.26 | 4.6.26 | - | - | X | - | X | - | - | - |
| Insert retention | 3.6.30 | 4.6.30 | - | - | X | X | - | - | - | - |
| Salt spray (corrosion) 1/ | 3.6.20 | 4.6.20 | - | - | - | - | - | X | - | - |
| Salt spray (dynamic test, class W) 4/ | 3.6.20 | 4.6.20.1 | - | - | - | - | - | X | - | - |
| Ozone exposure | 3.6.38 | 4.6.38 | - | - | - | - | - | X | - | - |
| Fluid immersion (class L) | 3.6.28 | 4.6.28 | X | X | - | - | - | - | - | - |
| Altitude immersion | 3.6.36 | 4.6.36 | X | X | - | - | - | - | - | - |
| Mating and unmating forces 3/ | 3.6.3 | 4.6.4 | X | X | X | X | X | X | - | - |
| Contact retention (class L) | 3.6.32 | 4.6.32 | X | X | X | - | - | X | X | - |
| Dielectric withstanding voltage sea level (class L) | 3.6.9.1 | 4.6.10.1 | - | - | X | - | - | - | X | - |

See footnotes at end of table.

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"TABLE XIX. Qualification inspection (series 2, classes L and W) - Continued.

| Examination or test | Requirement paragraph | Method paragraph | Test group | | | | | | | |
|--|-----------------------------|------------------|------------|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Dielectric withstanding voltage altitude | 3.6.9.2 | 4.6.10.2 | X | X | X | X | X | X | - | - |
| Shell conductivity | 3.6.39 | 4.6.39 | X | X | X | X | X | X | - | X |
| RFI shielding (RFI plugs) | 3.6.43 | 4.6.43 | - | - | - | - | - | - | - | X |
| Insulation resistance | 3.6.7.1 | 4.6.8.1 | - | - | - | - | - | X | - | - |
| Insulation resistance - high temperature | 3.6.7.2 | 4.6.8.2 | X | X | X | X | X | X | - | - |
| Contact resistance | 3.6.5 | 4.6.6 | X | X | X | X | X | X | - | - |
| Insert grommet bonding | 3.6.40 | 4.6.40 | - | - | - | - | - | - | X | - |
| Final examination of product | 3.7.4 | 4.6.49 | X | X | X | X | X | X | X | X |
| External bending moment | 3.6.41 | 4.6.41 | - | - | - | - | - | - | X | - |
| Accessory thread strength | 3.6.47 | 4.6.47 | X | - | - | - | - | - | - | - |
| <u>Group 9 - Interchangeability test</u> | | | | | | | | | | |
| <u>(series 2 with series 1)</u> | | | | | | | | | | |
| <u>(see 3.5.1)</u> | | | | | | | | | | |
| Examination of product | 3.1,3.3 thru 3.5, 3.7 & 3.8 | 4.6.1 | | | | | | | | |
| Mating and unmating forces | 3.6.2 | 4.6.3 | | | | | | | | |
| Durability | 3.6.17 | 4.6.17 | | | | | | | | |
| Mating and unmating forces | 3.6.2 | 4.6.3 | | | | | | | | |
| Vibration | 3.6.21 | 4.6.21 | | | | | | | | |
| Impact 4/ | 3.6.48 | 4.6.50 | | | | | | | | |
| Shock (specified pulse) | 3.6.23 | 4.6.23 | | | | | | | | |
| Humidity | 3.6.25 | 4.6.25 | | | | | | | | |
| Dielectric withstanding voltage altitude | 3.6.8 | 4.6.9.2 | | | | | | | | |
| Final examination of product | 3.1,3.3 thru 3.5, 3.7 & 3.8 | 4.6.1 | | | | | | | | |

1/ Except class W.

2/ Footnote 1 does not pertain to group 8.

3/ Conditioning mating and unmating cycles are not required for this test. Conduct torque measurement only.

4/ Qualification only."

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TABLE XX, line 13: Delete "Temperature life (class N)" and substitute "Temperature life with contact loading (class N)".

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* 4.4.2, delete and substitute:

"4.4.2 Inspection lot. An inspection lot shall consist of all connectors of the same shell size, covered by the same MS standards, produced under essentially the same conditions and offered for inspection at one time."

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4.5.1.1.2(c), add the following sentence to end of paragraph:

"In addition, 2 receptacle connectors without inserts and with bayonet pins removed shall be provided for test aids for group 5 (RFI finger spring force)."

4.5.2, delete and substitute:

"4.5.2 Inspection of packaging. The sampling and inspection of the preservation, packing, and container marking shall be in accordance with the requirements of MIL-C-55330."

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4.6.2, delete and substitute:

"4.6.2 Maintenance aging (crimp contacts only) (see 3.6.1). Connectors shall be tested in accordance with method 2002 of MIL-STD-1344. The following details shall apply:

- (a) Contacts shall be removed and reinserted once using the appropriate MIL-I-81969/17 and MIL-I-81969/19 tools for series 1 and MS3448 or MIL-I-81969/14 for series 2.
- (b) Connectors shall be mated and unmated 10 times. A minimum of 20 percent but not less than three of the contacts shall be removed and reinserted nine times. Maximum forces shall be as specified in table X."

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4.6.5, add second sentence as follows:

"For class H contacts, test current for sizes 20, 16, and 12 shall be 5.0, 10.0, and 17.0 amperes, respectively."

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4.6.8.2(a), line 1: Following "200 +3°C," add "(classes H, N, and W, 175 +3°C)."

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4.6.12(a), delete and substitute:

"(a) Test condition letter A - minimum temperature -55°C and maximum temperature 125°C."

4.6.13, delete and substitute:

"4.6.13 Thermal shock (series 2) (see 3.6.13). Mated, wired connectors, shall be tested in accordance with method 1003 of MIL-STD-1344, test condition A, with the following exceptions:

- (a) Classes L and A minimum temperature -55°C, maximum temperature 200°C.
- (b) Classes H, N, and W minimum temperature -55°C, maximum temperature 175°C."

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4.6.15.1, line 4: Delete "table XI" and substitute "table XXVI".

4.6.18, at the end of first sentence, add: "at the rate of 200 ±100 cycles per hour."

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4.6.19(c): Last sentence, delete.

4.6.20(a), add the following: "For class W-452 hours mated followed by 48 hours unmated."

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4.6.20.1, delete and substitute:

"4.6.20.1 Salt spray (dynamic test, class W) (see 3.6.20). The wired assembled plugs and receptacles shall be mated and unmated 50 cycles of durability at rate of 200 +100 cycles per hour. The details specified in 4.6.18 shall apply. The sample connectors shall then be subjected to the spray test in accordance with method 1001 of MIL-STD-1344, the following details and exceptions shall apply:

- (a) Four hundred and fifty two hours mated, followed by 48 hours unmated.
- (b) The samples shall not be mounted, but shall be suspended from the top using waxed twine or string, glass rod or glass cord.
- (c) Wire ends must be protected to prevent salt migration.

After salt spray exposure, the remaining number of durability cycles specified in 3.6.18 or 3.6.18.1 shall be completed. Requirements of 3.6.18 or 3.6.18.1 and 3.6.20 shall apply."

4.6.22, delete and substitute:

"4.6.22 Random vibration (series 2) (see 3.6.22). Wired, mated connectors shall be tested in accordance with method 214 of MIL-STD-202. The following details shall apply:

- (a) The connector shall be mounted on the table by normal means.
- (b) Test condition 11-letter J shall be used.
- (c) The duration of test shall be 8 hours in the longitudinal direction and 8 hours in the perpendicular direction.
- (d) All contacts shall be wired in a series circuit and 100 to 150 milliamperes shall be caused to flow during vibration."

4.6.24(a), delete and substitute:

"(a) The pulse shall be an approximate half sine wave of 300 G +15 percent magnitude, with a duration of 3 +1 milliseconds."

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4.6.25.1, first sentence, delete and substitute:

"Mated connectors shall be tested in accordance with method 1002 of MIL-STD-1344."

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4.6.25.1(b), delete and substitute:

"(b) Mated test samples."

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* 4.6.37 1, title, delete and substitute: "Temperature life with contact loading (series 2, classes L (at 200°C) N and W (at 175°C))."

4.6.39, line 9: Delete ".100 \pm .010 ampere" and substitute "1 \pm .01 ampere."

4.6.40, end of second sentence, add: "class W, 175 \pm 3°C."

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Add the following new paragraph:

"4.6.50 Impact (drop) (see 3.6.48). The connector shall be wired as intended for normal service, complete with accessories and tested in accordance with method 2015 of MIL-STD-1344 at a drop height of 4 feet, service class, light with a total of eight drops."

* Following 4.6.50, add:

"4.6.51 Finish thickness (series 1 solder contacts) (see 3.6.48)."

"4.6.51.1 Overall finish (see 3.3.5.1.1). Finish thickness shall be measured in accordance with MIL-G-45204. Measurements shall be made on the external surfaces of the contact body at the locations shown on figure 14.

"4.6.51.2 Localized finish (see 3.3.5.1.2). Finish thickness shall be measured in accordance with MIL-G-45204. Measurements shall be made at point A or D of figure 15, as applicable.

"4.6.52 Humidity - temperature cycling (series 1, localized gold finish contacts only (see 3.6.49). Wired mated contacts shall meet the requirements of 3.6.49 when tested in accordance with method 1002 of MIL-STD-1344, type II, test condition A. Current applied to contacts during exposure shall be 100 \pm 10 milliamps."

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* Add new figures 14 and 15

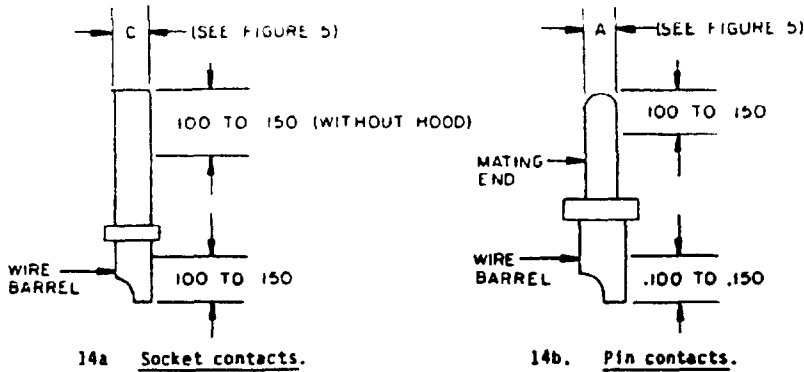
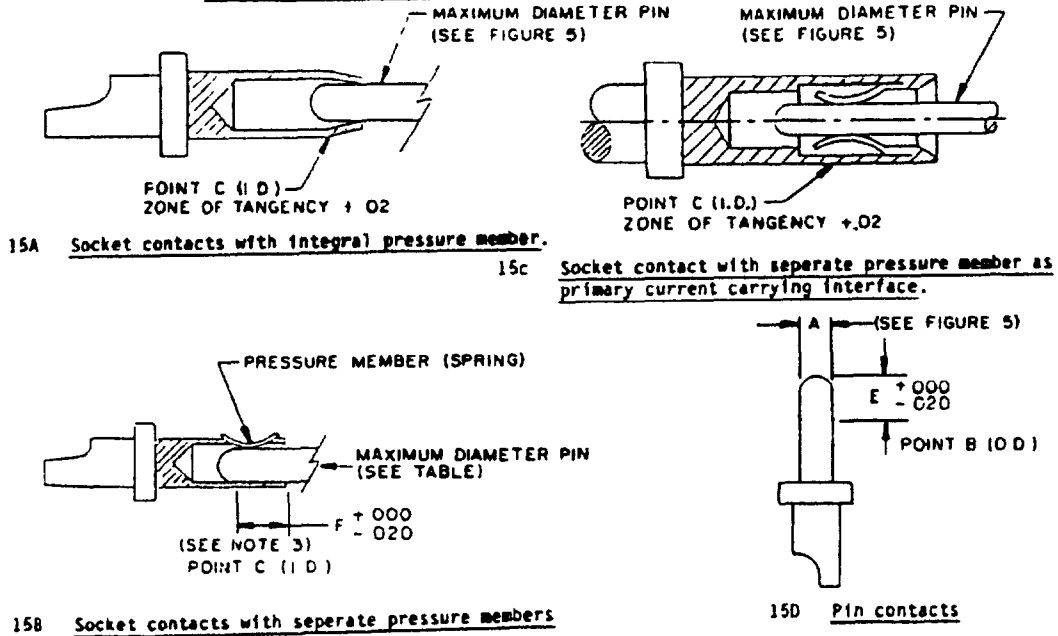


FIGURE 14 Plating thickness measurement - overall finish (series 1, solder).



NOTES

- 1 Dimensions are in inches
- 2 Metric equivalents are given for general information only.
- 3 F = .290, E = .290, F equals length of maximum electrical contact (wiping) area plus .020 (0.51 mm) minimum. Maximum wipe shall be equal to maximum E of mating pin engagement minus the spherical radius

FIGURE 15 Plating thickness measurement - localized finish (series 1, solder).

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5., 5.1, 5.1.1, delete and substitute:

"5. PACKAGING

"5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-C-55330."

* 6.2, delete "h" and "i" (added by previous amendment) and substitute the following:

"(h) Class W connectors are intended for use in salt spray environments providing a corrosive resistant shell, conductive finish, and fluid resistance at 175°C service temperature."

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6.3.2, delete and substitute:

"6.3.2 Crimp contacts. Crimp contacts may be ordered in bulk in accordance with MIL-C-39029."

* Following 6.4.2, add:

"6.4.3 Overall finish. A finish having a specified minimum thickness applied (i.e., barrel plating techniques, non-selective types, etc.) on all external plating surface diameters except for corners, which assures the specified performance of the contact."

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* Following 6.12, add:

"6.12 Subject term (keyword) listing.

Contact
Coupling, bayonet
Crimp
Front release
Jam-nut
Rear release
Localized finish
Overall finish
Solder "

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Concluding material: Delete and substitute as printed in this amendment.

The margins of this amendment are marked with an asterisk to indicate there changes (additions, modifications, corrections, deletions) from the previous amendment were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous amendment.

CONCLUDING MATERIAL

Custodians:

Army - CR
Navy - AS
Air Force - 85
NASA - NA

Preparing activity:

Army - CR

Agent:

DLA - ES

Review activities:

Army - AR, MI
Navy - EC, SH, TD
Air Force - 17, 99
DLA - ES

(Project 5935-3766)

User activities:

Army - AV
Navy - MC